

rent, although evidently belonging to the genus *Higginsia* in other respects, there are several dry specimens in the British Museum, of which No. 18 is the largest. No. 40 is an elkhorn-shaped, rat-tailed, flat, branched variety, and Nos. 16, 17, and 19, all more or less like that above described, and all registered 71. 5. 12. 1 &c.

Gen. obs. In many of the Ectyonida there are flesh-spicules, viz. equianchorates, bihamates, or tricurvates, and these may be alone or combined. The anchorate is generally of that kind termed navicular from its boat-like form, *i. e.* sharp at each end; the bihamate a small simple C- or S-shaped one; and the tricurvate also small and simple. In one instance, however, the anchorate is "angulate," that is, the shaft is bow-shaped and turned up at the ends (see Bowerbank's illustration, Mon. Brit. Spong. vol. i. pl. vi. fig. 143), characterizing the Plumohalichondrina; but in the rest the flesh-spicules do not seem to be of much specific value, on account of the sameness of their form. One more observation I would add here, viz. that the curve of the acute skeletal spicule in the ECHINONEMA is so generally on one side the middle, and towards the obtuse end, that when I see this I feel almost confident that the sponge from which it came belongs to this order.

[To be continued.]

XXVIII.—*Remarks on a Paper by Prof. E. D. Cope on the Reptiles of the Province Rio Grande do Sul, Brazil.* By G. A. BOULENGER.

PROF. COPE'S "Twelfth Contribution to the Herpetology of Tropical America"* contains a list of Reptiles and Batrachians from the Province Rio Grande do Sul, collected by the "Naturalist Brazilian Exploring Expedition." Having lately been engaged in naming large series of specimens from the same country, transmitted to the Natural-History Museum by the zealous Dr. H. von Ihering, and which have afforded material for several contributions published in these 'Annals' †, I am able to present a few critical remarks on Prof. Cope's identifications and new species. Besides, the nomenclature adopted by the American herpetologist differs in so many

* Proc. Amer. Phil. Soc. xxii. pp. 167-194; April 1885.

† March, April, and August numbers, 1885.

points from that followed by me, that it will be useful to place side by side the names used by us. The following is the list of the species as enumerated by Cope, with the names used in my previous "Lists." Species not contained in my Lists are preceded by an asterisk.

REPTILIA.

LACERTILIA.

COPE.	=	BOULENGER.
1. Anops Kingii, <i>Bell.</i>	=	Anops Kingii.
2. Amphisbæna trachura, <i>Cope</i> , sp. n.	=	Amphisbæna Darwinii.
3. Aporarchus prunicolor, <i>Cope</i> , g. and sp. n.	=	Amphisbæna Darwinii.
4. Pantodactylus bivittatus, <i>Cope.</i>	=	Pantodactylus Schreibersii, <i>Wieg.</i>
5. Acrantus viridis, <i>Merr.</i>	=	Teius teyou, <i>Daud.</i>
6. Tejus teguexin, <i>L.</i>	=	Tupinambis teguixin.
7. Ophæodes striatus, <i>Wagl.</i>	=	Ophiodes striatus.

OPHIDIA.

8. Phalotris melanopleurus, <i>Cope</i> , sp. n.	=	Elapomorphus lemniscatus, <i>D.</i> & <i>B.</i>
9. Opheomorphus dorsalis, <i>Ptrs.</i>	=	Liophis Jaegeri, <i>Gthr.</i>
10. — fuscus, <i>Cope</i> , sp. n.	=	— cobella, <i>L.</i>
11. — meleagris, <i>Shaw.</i>	=	— Merremii, <i>Wied.</i>
12. Aporophis conirostris, <i>Gthr.</i>	=	— almadensis, <i>Wagl.</i>
13. — cyanopleurus, <i>Cope</i> , sp. n.	=	Dromicus melanostigma, <i>Wagl.</i>
*14. Tachymenis hypoconia, <i>Cope.</i>		
15. Thamnodynastes Nattereri, <i>Mik.</i>	=	Thamnodynastes Nattereri.
*16. Drymobius pantherinus, <i>Merr.</i>		
17. Herpetodryas carinatus, <i>L.</i>	=	Herpetodryas carinatus.
18. Philodryas Schottii, <i>Fitz.</i>	=	Philodryas Schottii.
*19. — Olfersii, <i>Fitz.</i>		
20. Tropidodryas æstivus, <i>D.</i> & <i>B.</i>	=	— æstivus.
*21. Leptognathus Catesbyi, <i>D.</i> & <i>B.</i>		
22. Oxyrhopus rhombifer, <i>D.</i> & <i>B.</i>	=	Oxyrhopus petalarius, <i>L.</i>
*23. — plumbeus, <i>Wied.</i>		
24. Lystrophis d'Orbignyi, <i>D.</i> & <i>B.</i>	=	Heterodon d'Orbignyi.
*25. Xenodon rhabdocephalus, <i>Boie.</i>		
*26. — Neovidii, <i>Gthr.</i>		

COPE.

BOULENGER.

- | | | |
|--|---|--------------------------------------|
| 27. <i>Helicops infratæniatus</i> , Jan. | = | <i>Helicops carinicaudus</i> , Wied. |
| 28. ——— <i>balioaster</i> , Cope, sp. n. | = | ——— <i>carinicaudus</i> . |
| 29. <i>Elaps altirostris</i> , Cope. | = | <i>Elaps lemniscatus</i> , L. |
| 30. <i>Bothrops alternatus</i> , D. & B. | = | <i>Bothrops alternatus</i> . |

BATRACHIA.

- | | | |
|---|---|--|
| 31. <i>Bufo d'Orbigny</i> , D. & B. | = | <i>Bufo d'Orbigny</i> . |
| 32. ——— <i>marinus</i> , L. | = | ——— <i>marinus</i> . |
| 33. <i>Engystoma ovale</i> , Schn. | = | <i>Engystoma ovale</i> , var. <i>bicolor</i> . |
| 34. <i>Hyla Vauterii</i> , D. & B. | = | <i>Hyla pulchella</i> . |
| 35. ——— <i>pulchella</i> , D. & B. | = | ——— <i>pulchella</i> . |
| 36. <i>Paludicola ranina</i> , Cope, | = | <i>Paludicola gracilis</i> , Blgr. |
| sp. n. | | |
| 37. <i>Leptodactylus ocellatus</i> , L. | = | <i>Leptodactylus ocellatus</i> . |
| 38. ——— <i>mystacinus</i> , Burm. | = | ——— <i>mystacinus</i> . |
| 39. <i>Pseudis paradoxa</i> , Laur. | = | <i>Pseudis mantidactyla</i> , Cope? |

Observations on the above Identifications.

2, 3.—That the two new species, *Amphisbæna trachura* and *Aporarchus prunicolor*, the latter the type of a new genus, are identical with *A. Darwinii* I can affirm. The principal character upon which the former is founded, viz. the “several terminal rings of the tail very distinct and divided into prominent hard tubercles,” is merely an individual anomaly. A species has already been made on a somewhat similar peculiarity (*A. heterozonata*, Burm.), but has been justly referred to the synonymy of *A. Darwinii* by Strauch, who has examined the type specimens. The new genus *Aporarchus* “is simply *Amphisbæna* without preanal pores.” *A. prunicolor* is nothing but a young specimen in which the pores are undistinguishable (or absent), as I have myself observed among the numerous specimens of *A. Darwinii* which have lately passed through my hands. Strauch also mentions a specimen of an *Amphisbæna* (*Anops Kingii*) abnormally destitute of preanal pores.

8.—Very curiously a colour variety of *Elapomorphus lemniscatus* has been described three times within two months:—by Strauch as *Elapomorphus Iheringii*, sp. n.; by myself as a variety of *E. lemniscatus*; and by Cope as *Phalotris melanopleurus*, sp. n. I have already shown that the characters given by Strauch do not even justify a subspecific distinction. This is further confirmed by Cope's description; while Strauch gives as unique structural character of his new species, as compared with *E. lemniscatus*, a very broad snout, Cope describes the snout as narrow; and he also remarks

that one of his specimens presents a black vertebral line which is absent in the others, the only remaining character upon which both descriptions agree being the continuous black colour of the lower and lateral surfaces. Since my remarks on the variations of this snake were written, the Natural-History Museum has received a ninth specimen, collected by Dr. v. Ihering at S. Lorenzo. This is larger than any hitherto recorded, measuring 700 millim.; snout very broad; coloration typical; ventrals 207, anal divided, caudals 23.

10.—Two closely allied species of *Liophis* occur abundantly in the province Rio Grande do Sul, one with nineteen rows of scales, the other with seventeen. The former was referred by me to *L. Merremii*, auct. (*C. meleagris*, Shaw), a view also taken by Cope. The second species I put down as *L. cobella*, to which it comes nearest, and of which an identical specimen was already so named in the Natural-History Museum; this is the form now named *Opheomorphus fuscus*. Whether it really deserves to rank as a species or ought to be regarded as a race of *L. cobella* is a doubtful question. At any rate it is a distinct form, characterized by the coloration and a somewhat greater number of ventral shields. Cope counts 182 ventrals, but this must be an extreme; the nine specimens before me give the following numbers:—165, 166, 167, 168, 170, 170, 172, 174, 175. In a dozen specimens of the typical *L. cobella* I find the number of ventrals varies from 143 to 161.

13.—After careful comparison of the description of *Aporophis cyanopleurus* with the specimens identified by me as *Dromicus melanostigma*, Wagl., as well as with the figure of the type specimen published by Jan, I have no doubt the two forms are identical.

27, 28.—The two species of *Helicops* mentioned by Cope are identical, and I have at present before me specimens of both, as well as of *H. carinicaudus*, of which I regard them as varieties. Cope himself, it is true, remarks of his *H. balio-gaster* that "this species is near the *H. infratæniatus*, Jan, and future investigation may prove it to be a variety of that species. . . . The colour of the lower surface in the two species is quite different." I can assure him that the latter difference does not even indicate a constant variety, as one of Dr. v. Ihering's specimens represents the typical *H. infratæniatus* on the anterior half of the ventral surface and the *H. balio-gaster* on the posterior.

35, 36.—A number of specimens of *Hyla pulchella* obtained by Dr. v. Ihering have convinced me that the difference in the dentition upon which *H. Vauterii* has been separated from that species is merely individual, and I therefore unite the two.

37.—The description of *Paludicola ranina* agrees with my *P. gracilis*, published in January 1883, but which Prof. Cope appears to have overlooked.

40.—The occurrence so far south of *Pseudis paradoxa* would be surprising; but as the list does not mention *P. mantidactyla*, which is very abundant in the province, I cannot help suggesting that an error in the determination has been made.

In conclusion, I think not one of the new species described in Prof. Cope's paper deserves to stand, with the exception, perhaps, of *Liophis fuscus*. His list contains only seven species not recorded in mine; of these, four have already been mentioned from Rio Grande do Sul by Hensel, viz. :—*Drymobius pantherinus*, *Philodryas Olfersii*, *Xenodon rhabdocephalus*, and *X. Neovidii*. *Tachymenis hypoconia*, *Leptognathus Catesbyi*, and *Oxyrhopus plumbeus* are apparently recorded from that province for the first time.

XXIX.—On a Collection of *Lepidoptera* made at Manipur and on the Borders of Assam by Dr. George Watt. By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

[Plate VIII.]

IN the year 1880 I had the pleasure of bringing before the Zoological Society an account of a collection made by Dr. Watt (Professor of Botany in the Calcutta University) principally in North-west India, and containing eight new species. Shortly after the publication of this paper Dr. Watt returned to India with the intention of starting immediately to explore Manipur; I, however, heard nothing more of him until the autumn of 1883, when he forwarded a large box of *Lepidoptera* in envelopes, and amongst them a smaller box of mounted specimens of all the species taken in Manipur, the remainder of the species having been obtained "on the N.E. frontier of India bordering on Assam."